05/15/14 Agenda

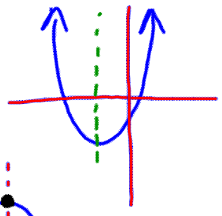
- Chapter 9 - Quadratic Functions & Equations
  - Unit Review

- Test TOMORROW - FRIDAY!!!

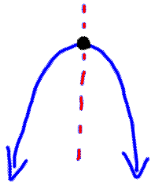
Homework
  - Finish Review Packet - it will be collected before the test

Important things!!

Axis of Symmetry: $x = \frac{-b}{2a}$



Vertex: $\left(\frac{-b}{2a}, \text{SOLVE FOR IT}\right)$



Solutions on a graph: ROOTS / ZEROS / X-INTERCEPTS

WHERE THE GRAPH CROSSES THE X-AXIS

Zero Product Property (ZPP):

IF $a \cdot b = 0$

THEN $a = 0$ OR $b = 0$

1.) FACTOR THE POLYNOMIAL

2.) SET EACH TERM = 0

3.) SOLVE

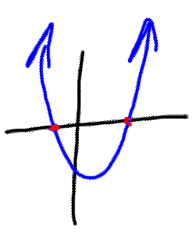
Quadratic Formula:

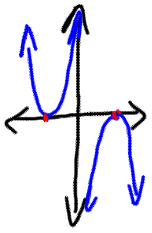
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \qquad Ax^2 + Bx + C$$

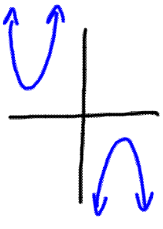
Discriminant: $b^2 - 4ac$

IF DISCRIMINANT IS

POSITIVE	ZERO	NEGATIVE
2 SOLUTIONS	1 SOLUTION	NO SOLUTION







Evaluate the discriminant, then solve by using the quadratic formula!

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

27) $-8v^2 + 4v + 20 = 0$

A = -8
B = 4
C = 20

$b^2 - 4ac$
$= 4^2 - 4(-8)(20)$
$= 16 + 640$
$= 656$ 2 solutions

$$v = \frac{-(4) \pm \sqrt{(4)^2 - 4(-8)(20)}}{2(-8)}$$

$$v = \frac{-4 \pm \sqrt{656}}{-16} = \frac{-4 \pm 25.6}{-16}$$

$v = \frac{-4 + 25.6}{-16}$ $v = \frac{-4 - 25.6}{-16}$

$v = \frac{21.6}{-16}$ $v = \frac{-29.6}{-16}$

$v = -1.35$ $v = 1.85$

28) $-5n^2 + 2n - 10 = 0$

a = -5
b = 2
c = -10

$b^2 - 4ac$
$(2)^2 - 4(-5)(-10)$
$4 - 200 = -196$

30) $2p^2 - 6p - 140 = 0$